REQUEST FOR PROPOSAL # NNJ07177092R

MANUFACTURE OF THE NASA STANDARD INITIATOR

SECTION J.3: DATA REQUIREMENTS LIST (DRL) AND DATA REQUIREMENTS DESCRIPTIONS (DRD)

JSC DATA REQUIREMENTS LIST (DRL)

(See reverse for instructions)
Based on JSC-STD-123

a. Title of Contract, Project, SOW, etc.	b. Contract/RFP No.	c. DRL Date/Mod Date
Manufacture of the NASA Standard Initiator-1	NNJ07177092R	1/8/2007

1. Line item no.	2. DRD Title	3. Data type:	4. Frequency	5. As-of-date	6. 1st subm. date	7. Copies
1	NSI Neutron Radiography (N-Ray)	☐ (1) Written approval ☐ (2) Mandatory Submittal ☒ (3) Submitted upon request	AD		See 9	a. Type: See 9 b. 1

8. Distribution *(Continue on a blank sheet if needed)*
EP5/ Todd Hinkel

9. Remarks
6. Films due at JSC two weeks prior to lot acceptance data review at the contractor's facility

7a. Original

1. Line item no.	2. DRD Title	3. Data type:	4. Frequency	5. As-of-date	6. 1st subm. date	7. Copies
2	Safety and Health Plan	☐ (1) Written approval ☒ (2) Mandatory Submittal ☐ (3) Submitted upon request	AR			a. Type: Print b. 1

8. Distribution *(Continue on a blank sheet if needed)*
NA/ Safety and Test Operations Division (2 copies)
SD 26/ Occupational Health Officer (1 copy)
JA 131/ Environmental Services (1 copy)
EP/ Todd Hinkel, COTR (1 copy)

9. Remarks
Safety and Health plan required with submittal of proposal

1. Line item no.	2. DRD Title	3. Data type:	4. Frequency	5. As-of-date	6. 1st subm. date	7. Copies
3	NSI Acceptance Data Package	☐ (1) Written approval ☒ (2) Mandatory Submittal ☐ (3) Submitted upon request	AD		See 9	a. Type: See 9 b. 1

8. Distribution *(Continue on a blank sheet if needed)*
EP5/ Todd Hinkel

9. Remarks
6. Required for the NASA lot certification review performed at the contractor's facility. NASA flight lot certification is required prior to hardware shipment.
7a. Reproducible copy

1. Line item no.	2. DRD Title	3. Data type:	4. Frequency	5. As-of-date	6. 1st subm. date	7. Copies
4	NSI Control Documentation	☒ (1) Written approval ☐ (2) Mandatory Submittal ☐ (3) Submitted upon request	AD	See 9	See 9	a. Type: See 9 b. 1

8. Distribution *(Continue on a blank sheet if needed)*
EP5/ Todd Hinkel

9. Remarks
5. Required prior to implementation
6. Changes prior to their use
7a. Reproducible copy
7b. As directed by DRD

J.3.2

JSC DATA REQUIREMENTS LIST (DRL)

(See reverse for instructions)
Based on JSC-STD-123

a. Title of Contract, Project, SOW, etc.	b. Contract/RFP No.	c. DRL Date/Mod Date
Manufacture of the NASA Standard Initiator-1	NNJ07177092R	1/8/2007

1. Line item no.	2. DRD Title	3. Data type:	4. Frequency	5. As-of-date	6. 1st subm. date	7. Copies
5	Safety and Health Program Self Evaluation	☐ (1) Written approval ☒ (2) Mandatory Submittal ☐ (3) Submitted upon request	Annual			a. Type b. 4

8. Distribution *(Continue on a blank sheet if needed)*	9. Remarks
NA/ Safety and Test Operations Division (2 copies) EP/ Todd Hinkel (1 copy) BH/ David Waterson (1 copy, hard or electronic)	The Safety and Health Program self evaluation shall be required annually

1. Line item no.	2. DRD Title	3. Data type:	4. Frequency	5. As-of-date	6. 1st subm. date	7. Copies
6	NSI Quality Assurance Plan	☐ (1) Written approval ☒ (2) Mandatory Submittal ☐ (3) Submitted upon request	AD		See 9	a. Type See 9 b. See 9

8. Distribution *(Continue on a blank sheet if needed)*	9. Remarks
NT/ Quality Assurance, Reliability and Safety Office Engineering	6. Required prior to implementation 7a. Reproducible copy 7b. As directed by DRD

1. Line item no.	2. DRD Title	3. Data type:	4. Frequency	5. As-of-date	6. 1st subm. date	7. Copies
7	NSI Problem Report	☐ (1) Written approval ☒ (2) Mandatory Submittal ☐ (3) Submitted upon request	AD	See 9	See 9	a. Type See 9 b. See 9

8. Distribution *(Continue on a blank sheet if needed)*	9. Remarks
EP5/ Todd Hinkel BH2/ David Waterson	5. As directed by DRD 6. As directed by DRD 7a. As directed by DRD 7b. As directed by DRD

1. Line item no.	2. DRD Title	3. Data type:	4. Frequency	5. As-of-date	6. 1st subm. date	7. Copies
8	NSI Body Coupon Tensile Test	☐ (1) Written approval ☐ (2) Mandatory Submittal ☒ (3) Submitted upon request	AD	See 9	See 9	a. Type See 9 b. See 9

8. Distribution *(Continue on a blank sheet if needed)*	9. Remarks
EP5/ Todd Hinkel	6. Due at JSC two weeks after test performed and to be included as part of DRL 3 for the NASA lot certification review at the contractor's facility. 7a. Reproducible copy

J.3.3

JSC DATA REQUIREMENTS LIST (DRL)

(See reverse for instructions)
Based on JSC-STD-123

a. Title of Contract, Project, SOW, etc.	b. Contract/RFP No.	c. DRL Date/Mod Date
Manufacture of the NASA Standard Initiator-1	NNJ07177092R	1/8/2007

1. Line item no.	2. DRD Title	3. Data type:	4. Frequency	5. As-of-date	6. 1st subm. date	7. Copies
9	NSI Program Status Report	☐ (1) Written approval ☒ (2) Mandatory Submittal ☐ (3) Submitted upon request	MO	See 9	See 9	a. Type b. See 9 2

8. Distribution *(Continue on a blank sheet if needed)*	9. Remarks
EP5/ Todd Hinkel BH2/ David Waterson	5. Required for program status 6. After first full month of program 7a. Reproducible copy

1. Line item no.	2. DRD Title	3. Data type:	4. Frequency	5. As-of-date	6. 1st subm. date	7. Copies
10	NSI Explosive Mix Caloric Output	☐ (1) Written approval ☐ (2) Mandatory Submittal ☒ (3) Submitted upon request	AD		See 9	a. Type b. See 9 1

8. Distribution *(Continue on a blank sheet if needed)*	9. Remarks
EP5/ Todd Hinkel	6. Required for the NASA COTR review and approval performed at NASA JSC prior to the explosive loading operation at the contractor's facility 7a. Reproducible copy.

1. Line item no.	2. DRD Title	3. Data type:	4. Frequency	5. As-of-date	6. 1st subm. date	7. Copies
11	Monthly Safety and Health Metrics	☐ (1) Written approval ☒ (2) Mandatory Submittal ☐ (3) Submitted upon request	MO			a. Type b.

8. Distribution *(Continue on a blank sheet if needed)*	9. Remarks
EP/ Todd Hinkel, COTR- 1 copy NS2/ Occupational Safety and Health Branch- 1 electronic copy SD26/ Occupational Health Officer- 1 electronic copy BH2/ Robert Kolb, Contracting Officer- 1 electronic copy BH2/ David Waterson, Contracts Specialist- 1 electronic copy	See DRD for description, distribution, etc.

1. Line item no.	2. DRD Title	3. Data type:	4. Frequency	5. As-of-date	6. 1st subm. date	7. Copies
12	System Safety Program Plan	☐ (1) Written approval ☒ (2) Mandatory Submittal ☐ (3) Submitted upon request	AR			a. Type b.

8. Distribution *(Continue on a blank sheet if needed)*	9. Remarks
NA/ Safety and Test Operations Division (2 copies) SD 26/ Occupational Health Officer (1 copy) JA 131/ Environmental Services (1 copy) EP/ Todd Hinkel, COTR (1 copy) BH/ David Waterson, Contracts Specialist (1 copy_	SSP Plan must be submitted with proposal

JSC DATA REQUIREMENTS DESCRIPTION (DRD)

(Based on JSC –STD-123. See work page for instructions.)

1. DRD Title	2. Date of current version	3. DRL Line Item No.	RFP/Contract No. (Procurement completes)
NASA Standard Initiator Neutron Radiography	1/8/07	1	NNJ07177092R

4. Use *(Define need for, intended use of, and/or anticipated results of data)*	5. DRD Category: *(check one)*
The N-Ray will be used to verify correct assembly of each NSI	☒ Technical ☐ Administrative ☐ SR&QA

6. References *(Optional)*	7. Interrelationships *(e.g., with other DRDs) (Optional)*
JSC 20431- NASA JSC Neutron Radiography Specification	

8. Preparation Information *(Include complete instructions for document preparation)*

N-Ray images of each NSI shall be made at the completion of the pin-header to NSI body weld, and prior to charge cup installation.

N-Ray images are required after assembly of each completed NSI.

Detailed inspection and film review criteria shall be included in the vendor document concerning the N-Ray images.

All films are due at NASA-JSC for review two weeks prior to the Lot Acceptance Review at the contractor's facility.

Number of copies: One original set

Ship to:

NASA Johnson Space Center
2101 NASA Parkway
Houston, TX 77058
Attn: EP5/ Contracting Officer's Technical Representative.

JSC DATA REQUIREMENTS DESCRIPTION (DRD)

(Based on JSC STD-123)

1. DRD Title	2. Current Version Date	3. DRL Line Item No.	RFP/Contract No. (Procurement completes)
SA-1-1, Safety and Health Plan	10/02 (replaces 7/02 version)	2	NNJ07177092R

4. Use (Define need for, intended use of, and/or anticipated results of data)

Establishes Safety, Health, and Environmental Compliance Plan for contractors providing support to JSC organizations

***The Office of Primary Responsibility for this DRD is the JSC Safety, Reliability, and Quality Assurance Office

5. DRD Category: *(check one)* ☐ Technical ☐ Administrative ☒ SR&QA

6. References *(Optional)*	7. Interrelationships *(e.g., with other DRDs) (Optional)*
NPG 8715.3 (as revised); JPG 1700.1 (as revised)	See block 8. below

8. Preparation Information (Include complete instructions for document preparation)

NOTE: UPON NASA APPROVAL, THE CONTRACTOR'S SAFETY, HEALTH, and ENVIRONMENTAL COMPLIANCE PLAN ("The Plan") BECOMES A CONTRACTUAL REQUIREMENT.

Frequency of submission. One time only (with the proposal).

Distribution. After the plan is approved by NASA, the Contracting Officer will retain the plan in the contract file. The contractor will send additional copies to each of the following:
NS/Safety and Test Operations Division (2 copies)
SD13/Occupational Health Officer (1 copy)
JA131 / Environmental Services (1 copy)
Contracting Officer's technical Representative (1 copy)

Subsequent revisions to the plan. The contractor may revise the plan at any time or at the direction of the Government. Revisions are subject to Government review and approval. Distributions of approved revisions will be as described above.

Other deliverables. The requirements for this plan as detailed in the instructions on plan content below include instructions for specific reports and data to be submitted to the Government. These instructions are to be included in the plan and represent contractual commitments by the contractor to provide this information.

Format:

1. Cover page - to include as a minimum the signatures of Contractor's project manager and designated safety official (if different); NASA COTR; JSC Occupational Safety Branch; and the NASA Contracting Officer. Other signatures may be required at the discretion of the Government.

2. Table of Contents. See content below.

3. Body of plan - as required. Contractor's format is acceptable but should be traceable to the elements of the content below.

4. When preparing its plan, the offeror/contractor is expected to review all the items below and tailor its plan accordingly. **Certain requirements set forth in this DR may be specific for contractor operations performed at JSC, Ellington Field, or Sonny Carter Training Facility in the Clear Lake, Texas, area; tailoring of the plan to the requirements of specific establishments is acceptable.** The plan will clearly identify those resources to be provided by the contractor and provided by the Government. This review and supporting rationale is to be made available to the Government as part of this plan. It can be documented as a checklist or outline, inserted directly in the body of the plan, or in any format developed by the contractor that clearly conveys the results of this review including the basis for any underlying assumptions.

5. Authority: FAR 52.223-1 through -5, -10; NFS 18-23.70, 18-52.223-70, 18-52.223-73.

Content:

1. **MANAGEMENT LEADERSHIP AND EMPLOYEE PARTICIPATION.**

1.1. Policy. Provide the contractor's safety, health, and environmental compliance policy statement with the plan. Compare the contractor's policy statement with those of NASA and OSHA and discuss any differences.

1.2. Goals and Objectives.

1.2.1. Describe specific safety and health goals and objectives to be met. Discuss status of safety program using the "Performance Evaluation Profile" as safety performance criteria. Describe the contractor's approach to continuous improvement (including milestone schedule) using level 5 of the Performance Evaluation Profile as a guideline.

1.2.2. Describe Environmental Goals & Objectives to be met for the following:

a. Pollution Prevention and Source Reduction of:
   (1) Hazardous and Industrial Solid Wastes
   (2) Solid Wastes (trash, refuse)
   (3) Wastewater Discharges (sanitary sewerage)
   (4) Air Emissions
   (5) Medical & Radiological Discharges

b. Affirmative Procurement (Purchase of Environmentally Preferable Materials IAW Executive Order)

c. Hazardous Materials Handling/Purchasing/Reduction/Replacement

d. Elimination from Specifications and Standards requirements for the use of Hazardous/Toxic Substances & Materials

e. Use of an Environmental Planning Checklist to review & document Impacts of New and Modified Programs, Projects, Activities and Operations.

f. Life cycle analysis and costing

g. Incorporating Environmental Requirements in Subcontracts

h. Participation in JSC Recycling

i. Outreach programs

1.3. Management Leadership. Describe management's procedures for implementing its commitment to safety, health, and environmental compliance through visible management activities and initiatives

including a commitment to exercise management prerogatives to ensure workplace safety and health. Describe processes and procedures to making this visible in all contract and subcontract activities and products. Include a statement from the project manager or designated safety official indicating that the plan will be implemented as approved and that the project manager will take personal responsibility for its implementation.

1.4. Employee Involvement. Describe procedures to promote and implement employee (e.g., non-supervisory) involvement in safety, health, and environmental compliance program development, implementation and decision-making. Describe the scope and breadth of employee participation to be achieved so that approximate safety and health risk areas of the contract are equitably represented.

1.5. Assignment of Responsibility. Describe line and staff responsibilities for safety and health program implementation. Identify any other personnel or organization that provides safety services or exercises any form of control or assurance in these areas. State the means of communication and interface concerning related issues used by line, staff, and others (such as documentation, concurrence requirements, committee structure, sharing of the work site with NASA and other contractors, or other special responsibilities and support.) As a minimum, the contractor will identify the following:

1.5.1. Safety Representative - identify by title the individual who will be trained and certified in accordance with JPG 1700.1 to be responsive to Center-wide safety, health, environmental, and fire protection concerns and goals, and who will participate in meetings and other activities related to the JSC Safety and Health program.

1.5.2. Company Physician/Occupational Injury/illness case manager - identify a point of contact who is responsible for the transfer or receipt of company medical data and who will be the primary contact for the company in the event any employee suffers a work related injury or illness (such as the company physician) by name, address, and telephone number to the JSC Clinic, mail code SD22. This will facilitate communication of medical data to contractor management. Prompt notification to the JSC Occupational Health/ Clinic shall be given of any changes that occur in the identity of the point of contact. A letter to the JSC Occupational Health Office can accomplish initial identification of point of contact and subsequent updates with a copy sent to the Contracting Officer. The initial letter is to be received by the Government prior to contract start.

1.5.3. Building Fire Wardens - provide a roster of fire wardens (their names, phone numbers and pagers, and mail codes). Contractor fire wardens are needed to facilitate the JSC fire safety program, including coordination of related issues with NASA facility managers and emergency planning and response officials and their representatives. Fire wardens will be trained in accordance with JPG 1700.1. The roster shall be maintained by letter to JSC Occupational Safety, mail code NS2, with copies to the Contracting Officer and Contracting Officer's Technical Representative. The initial letter shall be received by the Government not later than 15 days after contract start.

1.5.4. Designated Safety Official - identify by title the official(s) responsible for implementation of this plan and all formal contacts with regulatory agencies and with NASA.

1.6. Provision of Authority. Describe consistency of the plan for compliance with applicable NASA and JSC requirements and contractual direction as well as applicable Federal, state, and local regulations and how compliance will be maintained throughout the life of the contract.

1.7. Accountability. Describe procedures for ensuring that management and employees will be held accountable for implementing their tasks in a safe and healthful and environmentally compliant manner. The use of traditional and/or innovative personnel management methods (including discipline, motivational techniques, or any other technique that ensures accountability) will be referenced as a minimum and described as appropriate.

1.8. Program Evaluation. The program evaluation consists of:

1.8.1. Participation in a Performance Evaluation Profile (PEP) survey at the request of the Government. The PEP survey normally will be scheduled and administered at the discretion of the Government. If the Government chooses not to do the PEP in a given year, the contractor may at its option initiate its own PEP by contacting JSC Occupational Safety, code NS2, for assistance. The contractor will not be required to take two or more PEP surveys in any contract year.

1.8.2. [Reserved.]

1.8.3. A written self-evaluation report to be delivered by Sept 30 of each year. The self-evaluation shall follow the VPP program evaluation report format found in OSHA TED 8.1, Revised Voluntary Protection Programs (VPP) Policies and Procedures Manual, Appendix H, "Format for Program Evaluation Report", as mandated by the cognizant OSHA regional office. Contractors who have submitted a written self-evaluation as a VPP site may submit their original report to OSHA in lieu of writing a new self - evaluation provided that all action plans and status are updated. The self evaluation shall as a minimum cover the elements of the approved safety and health plan.

1.8.4. Miscellaneous Reports. The contractor will acknowledge the following as standing requests of the Government and to be handled as described below.

a. Roster of Terminated Employees. Identify personnel terminated by contractor. Send to the JSC Occupational Health Officer, mail code SD13, no later than 30 days after the end of each contract year or at the end of the contract, whichever is applicable. At the contractor's discretion, the report may be submitted for personnel changes during the previous year or cumulated for all years. Information required:

(1) Date of report, contractor identity and contract number.

(2) For each person listed, provide name, social security number, and date of termination.

(3) Name, address, and telephone number of contractor representative to be contacted for questions or other information.

b. Material Safety Data. The contractor shall prepare and/or deliver Material Safety Data for hazardous materials

brought onto Government property or included in products delivered to the Government. This data is required by the Occupational Safety and Health Administration (OSHA) regulation, 29 CFR 1910.1200, "Hazard Communication", EPA "Emergency Planning and Community Right-to-Know (EPCRA, ref. 40 CFR 302, 311, 312); and the Texas Department of Health (TDH, ref. Chapters 505-507 of the Health and Safety Code), and Federal Standard 313 (or FED-STD-313), "Material Safety Data, Transportation Data and Disposal Data for Hazardous Materials Furnished to Government Activities", as revised. 1 copy of each MSDS will be sent upon receipt of the material for use on NASA property to the JSC Central Repository, Occupational Health and Test Support, Mail Code SD13, along with information on new or changed locations and/or quantities normally stored or used. If the MSDS arrives with the material and is needed for immediate use, the MSDS shall be delivered to the Central Repository by close of business of the next working day after it enters the site.

c. Hazardous Materials Inventory. The contractor shall compile an inventory report of all hazardous materials it has located on Government property not less than annually, and which is within the scope of 29 CFR 1910.1200, "Hazard Communication"; and Federal Standard 313 (or FED-STD-313), "Material Safety Data, Transportation Data and Disposal Data for Hazardous Materials Furnished to Government Activities", as revised. The call for this annual inventory and instructions for delivery will be issued by the JSC Occupational Health and Test Support Office, mail code SD13. This information shall use the format used by JSC for chemical inventory compilation to provide the following:

(1) the identity of the material;
(2) the location of the material by building and room;
(3) the quantity of each material normally kept at each location
(4) peak quantity stored
(5) actual or estimated rate of annual usage of each chemical

1.9. Government Access to Safety and Health Program Documentation. The contractor shall recognize in its plan that it will be expected to make all safety, health, and environmental documentation (including relevant personnel records) available for inspection or audit at the Government's request. Electronic access by the Government to this data is preferred as long as Privacy Act requirements are met and Government safety and health professionals and their representatives have full and unimpeded access for review and audit purposes. For contractor activities conducted on NASA property, the contractor will identify what records it will make available to the Government in accordance with the Voluntary Protection Program criteria of OSHA as implemented in JPG 1700.1, "JSC Safety and Health Handbook", as revised. For the purpose of this plan, safety, health, and environmental compliance documentation includes but is not limited to logs, records, minutes, procedures, checklists, statistics, reports, analyses, notes, or other written or

electronic document which contains in whole or in part any subject matter pertinent to safety, health, environmental protection, or emergency preparedness.

1.10. The contractor may be requested to participate in the review and modification of safety requirements that are to be implemented by the Government including any referenced documents therein. This review activity will be implemented at the direction of the NASA Contracting Officer's Technical Representative in accordance with established NASA directives and procedures.

1.11. Procurement. Identify procedures used to assure that procurements are reviewed for safety, health and environmental compliance considerations and that specifications contain appropriate safety criteria and instructions. Set forth authority and responsibility to assure that safety tasks are clearly stated in subcontracts.

1.12. Certified Professional Resources. Discuss your access to certified professional resources for safety, health, and environmental protection. Discuss their roles in motivation/awareness, worksite analysis, hazard prevention and control, and training.

2. WORKSITE ANALYSIS. Hazards shall be systematically identified through a combination of surveys, analyses, and inspections of the workplace, investigations of mishaps and close calls, and the collection and trend analysis of safety and health data such as: records of occupational injuries and illnesses; findings and observations from preventive maintenance activities; reports on hazardous substance spills and inadvertent releases to the environment; facilities related incidents related to partial or full loss of systems functions; etc. Hazards identified by any of the techniques identified below shall be ranked and processed in accordance with JPG 1700.1. All hazards on NASA property, which are immediately dangerous to life or health, shall be reported immediately to the Occupational Safety Office. All safety engineering products that address operations, equipment, etc., on NASA property will be subject to JSC SR&QA review and concurrence unless otherwise waived by the JSC Occupational Safety Office.

2.1. Industrial Hygiene. Describe your industrial hygiene program and how it will be coordinated with the JSC government provided resources for industrial hygiene. In the event corporate resources are used to determine workplace exposures, copies of all monitoring data shall be provided to JSC Occupational Health within 15 days of receipt of results.

2.2. Hazard Identification. Describe the procedures and techniques to be taken to compile an inventory of hazards associated with the work to be performed on this contract. This inventory of hazards shall address the work specified in this contract as well as operations and work environments in the vicinity or in close proximity to contract operations. The results will be reported to the Government in a manner suitable for inclusion in facilities baseline documentation as a permanent record of the facility. Specific techniques to be considered include:

2.2.1. Comprehensive Survey - A "wall to wall" engineering assessment of the work site including facilities, equipment, processes, and materials (including wastes - (TNRCC/EPA solid & hazardous, radioactive, explosives, medical-infectious-biological).)). The comprehensived survey will establish a baseline of hazards that

may put contract assets at risk as early as is feasible, preferably at contract start.

2.2.2. Change (Pre-use) Analysis - Typically addresses modifications in facilities, equipment, processes, and materials (including waste); and related procedures for operations and maintenance. Change analyses periodically will be driven by new or modified regulatory and NASA requirements.

2.2.3. Hazard Analysis - may address facilities, systems/subsystems, operations, processes, materials (including waste), and specific tasks or jobs. Analyses and report formats will be in accordance with JSC 17773, "Preparing of Hazard Analyses for JSC Ground Operations."

2.3. Inspections.

2.3.1. Routine Inspections. Includes assignments, procedures, and frequency for regular inspection and evaluation of work areas for hazards and accountability for implementation of corrective measures. The contractor will describe administrative requirements and procedures for control of and regularly scheduled inspections for fire and explosion hazards. The contractor has the option, in lieu of this detail, to identify policies and procedures with the stipulation that the results (including findings) of inspections conducted on NASA property or involving Government furnished property will be documented in safety program evaluations or the monthly Accident/Incident Summary reports. Inspections will identify

a. Discrepancies between observed conditions and current requirements, and

b. New (not previously identified) or modified hazards.

2.3.2. Protective Equipment. Set forth procedures for obtaining, inspecting, and maintaining all appropriate protective equipment, as required, or reference written procedure pertaining to this subject. Set forth methods for keeping records of such inspections and maintenance programs.

2.4. Employee Reports of Hazards - identification of methods to encourage employee reports of hazardous conditions (e.g., close calls) and analyze/abate hazards. The contractor will describe steps it will take to create reprisal-free employee reporting with emphasis on management support for employees and describe methods to be used to incorporate employee insights into hazard abatement and motivation / awareness activities.

2.5. Accident and Record Analysis.

2.5.1. Mishap Investigation - identification of methods to assure the reporting and investigation of mishaps including corrective actions implemented to prevent recurrence. The contractor will describe the methods to be used to report and investigate mishaps on NASA property and on contractor or third party property. The contractor will describe its procedures for implementing use of NASA forms as specified in JPG 1700.1 and alternate forms used by contractor with emphasis on timely notification of NASA; investigation procedures; exercise of jurisdiction over a mishap investigation involving NASA and other contractor personnel; follow up of corrective actions; communication of lessons learned to NASA; and solutions to minimize duplications in reporting and documentation including use of alternate forms, etc. The contractor will discuss its procedures for immediate notification requirements for fires, hazardous materials releases, and other

emergencies. The contractor will include appropriate details to address the use of NASA Form 1627, "Mishap Report" (or equivalent), including 24-hour and ten-day mishap reports to JSC Occupational Safety, mail code NS2. Note: the NASA Form 1627 is not attached since it is a three part carbonless form not conducive to reproduction. This form can be obtained from JSC's Printing Services.

2.5.2. Trend Analysis - describe approach to performing trend analysis of data (occupational injuries and illnesses; facilities, systems, and equipment performance; maintenance findings; etc.) Discuss methods to identify and abate common causes indicated by trend analysis. In support of site-wide trend analysis to be performed by the Government, the contractor will discuss method of providing data as follows:

a. Accident/Incident Summary Report. The contractor shall prepare and deliver Accident/Incident Summary Reports as specified on JSC Form 288, "Accident / Incident Statistics" (attached), as revised. All new and open mishaps, including vehicle accidents, incidents, injuries, fires, and close calls shall be described in summary form along with current status. Negative reports are also required monthly. Report frequency is monthly; Date due is the 10th day of the month following each month reported. Report to be delivered to the JSC Safety, Reliability, and Quality Assurance Office through the Occupational Safety Office, mail code NS2, by fax to 281-244-0426 or by attaching to an e-mail and transmitting to mishaps@ems.jsc.nasa.gov.

b. Log of Occupational Injuries and Illnesses. For each establishment on and off NASA property that performs work on this Contract, the Contractor shall deliver to the Government a copy of its annual summary of occupational injuries and illnesses (or equivalent) as described in Title 29, Code of Federal Regulations, Subpart 1904.5. Copy of all summaries as required above under Contractor's cover letter. If contractor is exempt by regulation from maintaining and publishing such logs, equivalent data in contractor's format is acceptable (such as loss runs from insurance carrier) which contains the data required by JSC Form 288. Data shall be compiled and reported by calendar year and provided to the Government within 45 days after the end of the year to be reported (e.g. not later than February 15 of the year following.)

3. HAZARD PREVENTION AND CONTROL. Identified hazards must be eliminated or controlled. In the multiple employer environment of the center, it is required that hazards including discrepancies and corrective actions be collected in a center wide information system (Hazard Abatement Tracking System (HATS) for risk management purposes. Describe your approach to implementing this requirement.

3.1. Appropriate Controls. Discuss approach to consideration and selection of controls. Discuss use of hazard reduction precedence sequence (see JPG 1700.1). Discuss approach to identifying and accepting any residual risk. Discuss implementation of controls including verifying effectiveness. Discuss scope of coverage (hazardous chemicals, equipment, discharges, waste, energies, etc.). Discuss need for

coordination with safety, health, environmental services, and emergency authorities at NASA.

3.2. Hazardous Operations and Processes. Establish methods for notification of personnel when hazardous operations and processes are to be performed in their facilities or when hazardous conditions are found to exist during the course of this contract. JPG 1700.1 will serve as a guide for defining, classifying, and prioritizing hazardous operations; 29 CFR 1910.119 will be the guide for hazardous processes. Develop and maintain a list of hazardous operations and processes to be performed during the life of this contract. The list of hazardous operations and processes will be provided to JSC as part of the plan for review and approval. JSC and the Contractor will decide jointly which operations and processes are to be considered hazardous, with JSC as the final authority. Before hazardous operations or processes commence, the Contractor will develop a schedule to develop written procedures with particular emphasis on identifying the job safety steps required. NASA will have access on request to any contractor data necessary to verify implementation. For all identified operations or processes that may have safety or health implications outside contract operations, the contractor shall identify such circumstances to the JSC Occupational Safety Branch and Occupational Health and Test Support Office who will provide additional instructions for further NASA management review and approval.

3.3. Written Procedures. Identification of methods to assure that the relevant hazardous situations and proper controls are identified in documentation such as inspection procedures, test procedures, etc., and other related information. Describe methods to assure that written procedures are developed for all hazardous operations, including testing, maintenance, repairs, and handling of hazardous materials and hazardous waste. Procedures will be developed in a format suitable for use as safety documentation (such as a safety manual) and be readily available to personnel as required to correctly perform their duties.

3.4. Hazardous Operations Permits. Identify facilities, operations and/or tasks where hazardous operations permits will be required as specified in JPG 1700.1 such as confined space entry, hot work, etc.) Set forth guidance to adhere to established NASA JSC procedures. Clearly state the role of the safety group or function to control such permits.

3.5. Operations Involving Potential Asbestos Exposures. Set forth method by which compliance is assured with JSC Asbestos Control Program as established in JPG 1700.1, as revised, and JPG 8800.1, "Asbestos Control Manual," as revised.

3.6. Operations Involving Exposures to Toxic or Unhealthful materials. Such operations must be evaluated by the JSC Occupational Health Office and must be properly controlled as advised by same. JSC Occupational Health Office must be notified prior to initiation of any new or modified operation potentially hazardous to health.

3.7. Environmental Operations & Activities

3.7.1. Operations Involving Hazardous Waste. Identify procedures used to manage hazardous waste from point of generation through disposal. Clearly identify divisions of responsibility between contractor and NASA for hazardous waste generated throughout the life of the contract. Operations that occur on site at JSC,

SCTF, or Ellington Field must be evaluated by the JSC Environmental Services Office and must be properly controlled as advised by same. JSC Environmental Services Office must be notified prior to initiation of any new or modified operations, equipment, systems, or activities generating new hazardous wastes or where the chemicals change or there are volume increases of 25% or more on site at JSC, SCTF, or Ellington Field.

3.7.2. Operations Involving New or Modified Emissions/Discharges to the Environment. Set forth methods for identifying new or modified emissions/discharges and coordinating results with the Environmental Services Office, mail code JA131. Set forth a plan of procedures to conduct pollution prevention, waste minimization or source reduction/elimination of environmental pollution. Address management and continuous improvement for the reduction of hazardous materials; substitution of non-hazardous or less hazardous materials for hazardous materials; proper segregation of hazardous wastes from non-hazardous wastes; and other methods described by NASA , EPA, , GSA, and Executive Order recycled content / affirmative procurement purchases . The JA131/Environmental Office is the single point of contact for coordinating all JSC environmental permits Emphasis shall be placed on providing for sufficient lead time for processing permits through the appropriate state agency and/or the Environmental Protection Agency.

3.8. Discuss your responsibilities for maintaining facilities baseline documentation in accordance with JSC requirements. The contractor will implement any facilities baseline documentation tasks (including safety engineering) as provided in the contractor's plan approved by NASA or as required by Government direction.

3.9. Preventive Maintenance. Discuss approach to preventive maintenance. Describe scope, frequency, and supporting rationale for your preventive maintenance program including facilities and /or equipment to be emphasized or de-emphasized. Discuss methods to promote awareness in the NASA community (such as alerts, safety flashes, etc.) when preventive maintenance reveals design or operational concerns in facilities and equipment (and related processes where applicable).

3.10. Medical (Occupational Healthcare) Program. Discuss your medical surveillance program and injury /illness case management to evaluate personnel and workplace conditions to identify specific health issues and prevent degradation of personnel health as a result of occupational exposures. Discuss approach to Cardiopulmonary Resuscitation (CPR), first aid, and , return to work policies and the use of government provided medical and emergency facilities for the initial treatment of occupational injuries/illnesses.

3.11. Hazard Correction and Tracking. Discuss your system for correcting and tracking safety, health, and environmental hazards with particular emphasis on integration with JSC's Hazard Abatement Process (found online at http://wwwsrqa.jsc.nasa.gov/HATS/). (The scope is restricted to establishments at JSC, Sonny Carter Training Facility, and Ellington Field.) This includes the following:

3.11.1. Personnel awareness of hazards. Discuss your approach to communicate unsafe conditions and approved countermeasures to

your employees. Discuss your approach to communicating such conditions to the Government and other contractors whose personnel may be exposed to such unsafe conditions. Discuss communications with facility managers. Discuss use of the NASA Lessons Learned Information System for both obtaining lessons from other sources and as a repository for lessons learned during performance of the contract.

3.11.2. Interim and Final Abatement Plans. Describe how you will approach interim and final abatement of hazards. Describe how you will provide data to the JSC Hazard Abatement Tracking System for all hazards that are not finally abated (all interim and final abatement actions completed) within 30 days of discovery. Discuss your approach to posting such plans using JSC Form 1240, "JSC Notice of Safety or Health Hazard and Action Plan", or equivalent. Discuss compatibility of your system with JSC's the role of facility managers in abatement planning, implementation, and verification.

3.12. Disciplinary System. Describe your system for ensuring safety and health discipline in your personnel (including subcontractors). Describe your approach to modifying personnel behaviors when personnel are exhibiting discrepant safety and health performance.

3.13. Emergency Preparedness. Discuss approach to emergency preparedness and contingency planning which addresses fire, explosion, inclement weather, environmental spill /releases, etc. Discuss compliance with 29 CFR 1910.120 (HAZWOPER) and role in JSC Incident Command System (see JPG 1700.1 for details). Discuss methods to be used for notification of JSC emergency forces including emergency dispatcher, safety hotline, director's safety hotline, etc. Discuss establishment of pre-planning strategies through procedures, training, drills, etc. Discuss methods to verify emergency readiness.

4. SAFETY AND HEALTH TRAINING. Describe the contractor's training program including identification of responsibility for training employees to assure understanding of safe work practices, hazard recognition, and appropriate responses for protective and/or emergency countermeasures, including training to meet federal, state, and local regulatory requirements. In doing so, the contractor will factor parallel requirements found in other mandates such as environmental protection [example: 29 CFR 1910.38 for emergency action plans and fire prevention plans versus EPA Resource Conservation & Recovery Act (RCRA) for Emergency Planning and Community Right-to-know (EPCRA).] Describe approach to identifying training needs including traceability to exercises such as job safety analyses, performance evaluation profiles, hazard analyses, mishap investigations, trend analyses, etc. Describe approach to training personnel in the proper use and care of protective equipment (PPE). Discuss tailoring of training towards specific audiences (management, supervisors, and employees) and topics (safety orientation for new hires, specific training for certain tasks or operations). Discuss approach to ensure that training is retained and practiced. Discuss personnel certification programs. Certifications should include documentation that training requirements and physical conditions have been satisfied (examples include physical examination, testing, and on-the-job

performance). Address utilization of JSC safety and health training resources (such as asbestos worker training/certification, hazard communication, confined space entry, lockout/tagout, etc.) as appropriate with particular emphasis on programs designed for the multiple employer work environment on NASA property. All training materials and training records will be provided to NASA, and other federal, State, and local agencies for their review upon request. If the contractor wishes to train their personnel in any regulatory mandated training, an agreement will be secured with JSC Occupational Safety Branch and Occupational Health and Test Support office prior to beginning training. The agreement will ensure that safety and health training resources available from NASA are utilized where appropriate and to ensure that contractor-supplied training is in agreement with JSC safety and health processes.

JSC DATA REQUIREMENTS DESCRIPTION (DRD)

(Based on JSC –STD-123. See work page for instructions.)

1. DRD Title	2. Date of current version	3. DRL Line Item No.	RFP/Contract No. (Procurement completes)
NASA Standard Initiator (NSI) Acceptance Data Package	1/8/2007	3	NNJ07177092R

4. Use *(Define need for, intended use of, and/or anticipated results of data)*	5. DRD Category: *(check one)*
To document and provide the historical data of each initiator (NSI) lot so that the quality and reliability of each NSI can be assured prior to lot certification.	☒ Technical ☐ Administrative ☐ SR&QA

6. References *(Optional)*	7. Interrelationships *(e.g., with other DRDs) (Optional)*
SN-D-0007	

8. Preparation Information *(Include complete instructions for document preparation)*

1. Lot Acceptance Data Package

The Lot Acceptance Data Package shall be made available by the contractor for the review performed by the NASA-JSC representative at the Lot Acceptance Review (Phase III). The data package will then be shipped to NASA-JSC after acceptance of the lot. The following items shall be the minimum included in the package:

a. Certified acceptance reports including the date of manufacture of each NSI an dthe lot number of the explosive material utilized.

b. Certified list of all detailed parts by number and their applicable drawings, including revision letters and inspection serial numbers of the entire lot.

c. Documented final inspection records, including the original set of N-Ray plates of each NSI in the lot, with copies of the N-Ray certification prepared by the performing contractor.

d. A copy of all destructive lot acceptance test data, including copies of the pressure/ time curves of the lot acceptance firing, which include pressure/ time traces and tabulated pressure/ time values.

e. Body material coupon tensile results, requirements, and all proof pressure test results. Also include the Certificate of Compliance (C of C) of the performing contractor.

f. Statement certifying that the propellant blend is the same blend used in the qualification testing. Also include the caloric data for the current powder lot/ batch.

g. Statement certifying the weight of each explosive contained in each unit (values shall be determined by NSI pre-load and post-load weights for each increment) meets Design Specification SKB26100066.

h. A copy of the operation/ manufacturing record (traveler) used in the production of subject lot with inspection stamps.

i. Copies of all failure and corrective action records including Material Review Records (MRRs), waivers, and deviations. Submitted information shall include copies of descriptive information such as discrepancy reports, squawk sheet and rejection reports. This information shall cover all discrepencies from receiving inspection records for piece parts to testing the end item prior to shipment.

This data package (items a through i) will be reviewed at the Lot Acceptance Review and shall be shipped to the JSC Contracting Officer's Technical Representative after acceptance of the lot.

Continued on following page

Acceptance Data Package DRD Continued...

2. Acceptance Data Information

The acceptance data shall be made available for review at or before the Lot Acceptance Review (Phase III). The following items shall be included as a minimum:

a. Receiving inspection records of piece parts
b. All operational/ manufacturing records (travelers) used in the production of the lot.
c. Purchase Orders
d. Material certification records
e. Rework information/ inspection records
f. Operating time logs
g. Contractor specifications and drawings
h. Subcontractor specifications and drawings
i. Contractor/ subcontractor acceptance test procedures
j. Any other information the contractor may wish to use for the assessment of the quality and reliability of each NSI prior to flight certification.

JSC DATA REQUIREMENTS DESCRIPTION (DRD)

(Based on JSC –STD-123. See work page for instructions.)

1. DRD Title	2. Date of current version	3. DRL Line Item No.	RFP/Contract No. (Procurement completes)
NASA Standard Initiator (NSI) Control Documentation	1/8/2007	4	NNJ07177092R

4. Use *(Define need for, intended use of, and/or anticipated results of data)*	5. DRD Category: *(check one)*
To establish and maintain documentation and configuration control	☒ Technical ☐ Administrative ☐ SR&QA

6. References *(Optional)*	7. Interrelationships *(e.g., with other DRDs) (Optional)*

8. Preparation Information *(Include complete instructions for document preparation)*

A record set of all documents pertaining to the materials, manufacturing, quality control, and acceptance of the NSIs shall be submitted. These documents shall be established as a baseline for the contract. In addition, an appropriate document shall list by number, title, revision and date all documents in the record set (including NASA, vendor and subcontractor documents) with and effectivity matrix by manufactured lot.

All documents shall be approved in writing by the Contracting Officer's Technical Representative (COTR) prior to their implementation. Changes to the documentation shall be approved by the COTR prior to implementation.

A record set of the above described documents (and revisions as they occur) shall be submitted as black line, vellum, aperture cards, or sepia copies. A copy of the document list, and any revisions to the record set, shall be submitted for each deliverable lot.

Number of copies: One original

Ship to:

NASA Johnson Space Center
2101 NASA Parkway
Houston, TX 77058
Attn: EP5/ Contracting Officer's Technical Representative

JSC DATA REQUIREMENTS DESCRIPTION (DRD)

(Based on JSC STD-123)

1. DRD Title	2. Current Version Date	3. DRL Line Item No.	RFP/Contract No. (Procurement completes)
Safety and Health Program Self Evaluation	10/03 (replaces 04/03 version)	5	NNJ07177092R

4. USE (Define need for, intended use of, and/or anticipated results of data)

Self evaluation of Contractor's safety and health program performance.

5. DRD Category: *(check one)* ☐ Technical ☐ Administrative ☒ SR&QA

6. References *(Optional)*	7. Interrelationships *(e.g., with other DRDs) (Optional)*
	SA-1-1 Safety and Health Plan.

8. Preparation Information (Include complete instructions for document preparation)

SCOPE:

1. The Contractor must conduct an annual self-evaluation of its safety and health program as required by its safety and health plan.

CONTENT:

2. Information required:

2.a. The internal assessment of safety and health program effectiveness during the report period (i.e., the previous year) indicating the status of goals or objectives previously established and areas of strength and weakness in Contractor safety program performance.

2.b. Safety and health concerns and resolutions relating to JSC operations which may have been identified during the report period.

2.c. Unresolved safety and health concerns relating to JSC operations which the Contractor feels merit attention of JSC safety and health management.

2.d. The goals and objectives of the Contractor safety and health program for the next report period.

2.e. An analysis of the contractor's performance at JSC-administered establishments in each of the 32 Voluntary Protection Program sub-elements found in the Federal Register Notice 65:45649-45663, July 24, 2000.

2.f. Attach action plans for identified problem areas. Action plans must include schedule for periodic progress reports to the Government on a frequency agreed to by the Government and the Contractor for each problem area.

FORMAT:

3. Format to be as required by the cognizant OSHA regional office. Contractors who have submitted a written self-evaluation as a VPP site may submit their original report to JSC in lieu of writing a new self - evaluation provided that all action plans and status are updated.

FREQUENCY OF SUBMISSION:

4. Report due September 30th of each year.

JSC DATA REQUIREMENTS DESCRIPTION (DRD)

(Based on JSC –STD-123. See work page for instructions.)

1. DRD Title	2. Date of current version	3. DRL Line Item No.	RFP/Contract No. (Procurement completes)
NASA Standard Initiator (NSI) Quality Assurance Plan	1/8/2007	6	NNJ07177092R

4. Use *(Define need for, intended use of, and/or anticipated results of data)*	5. DRD Category: *(check one)*
The Quality Plan is used to document the specific details of the contractor's Quality Management System (QMS) related to a specific product or process.	☐ Technical ☐ Administrative ☒ SR&QA

6. References *(Optional)*	7. Interrelationships *(e.g., with other DRDs) (Optional)*

8. Preparation Information *(Include complete instructions for document preparation)*

This is a program specific quality plan which shall be prepared in order to define the Quality Requirements for the program and identify the activities to be carried out in order to achieve the requirements.

Format: Contractor format is acceptable

Contents:
The Quality Plan shall contain those subjects listed in the Quality Assurance paragraph of this SOW and the following as a minimum:

a. The steps in the process that constitute the operating practice of the organization (a flowchart or similar diagram can be used to demostrate the elements of the process)
b. The specific allocation of responsibilities, authority, and resources during the different phases of the project.
c. The applicable documented procedures and instructions to be applied
d. Suitable testing, inspection, examination and audit programs at appropriate stages (i.e. design and development)
e. A documented procedure for changes and modifications in the quality plan as projects proceed
f. A method for measuring the achievement of the quality objectives
g. Other actions necessary to meet the objective
h. Provisions for complying with the Quality Assurance Supplements required in the Statement of Work

Maintenance: Update as required

Number of copies: Two

Ship To:
NASA Quality Assurance, Reliability, and Safety Office
Boeing North America
Downey 1, Room N33
Huntington Beach, CA 92647
Phone: 562.922.1163
Attn: NE/ Reliability, Safety and Quality Engineering

NASA Johnson Space Center
2101 NASA Parkway
Houston, TX 77058
ATTN: EP5/ Contracting Officer's Technical Representative

JSC DATA REQUIREMENTS DESCRIPTION (DRD)

(Based on JSC –STD-123. See work page for instructions.)

1. DRD Title	2. Date of current version	3. DRL Line Item No.	RFP/Contract No. (Procurement completes)
Problem Reporting and Corrective Action	1/8/2007	7	NNJ07177092R

4. Use *(Define need for, intended use of, and/or anticipated results of data)*	5. DRD Category: *(check one)*
To report problems and to document their subsequent resolution and approval	☐ Technical ☐ Administrative ☒ SR&QA

6. References *(Optional)*	7. Interrelationships *(e.g., with other DRDs) (Optional)*
JSC 28035, NSTS 22206, SSP 30234	Nonconformance Record DRD

8. Preparation Information *(Include complete instructions for document preparation)*

Nonconformances requiring JSC GFE PRACA reporting are defined in JSC 28035. PRACA reporting is limited to flight equipment, equipment that is representative of flight equipment and critical ground support equipment.

Contents:

A. The following is mandatory for the initial reporting of a problem. The initial report shall be transmitted to the JSC PRACA Center within 2 business days after isolation to a configuration item but no later than 10 business days after occurrence/ detection.

1. PRACA number (a unique number assigned to the PRACA report)
2. Noncomformance number (a unique local nonconformance number)
3. Detect Date (the date {mm/dd/yyyy} nonconformance occurred or was detected)
4. Location (Location of nonconforming item at time of nonconformance)
5. Program (Affected NASA program)
6. Project Office (Responsible NASA project office)
7. Contact (Technical POC, organization and phone number)
8. Report date (Date the PRACA report was initiated)
9. Detected during (specific test during which noncomformance occurred)
10. Title (a brief, descriptive title for the problem)
11. Description (A narrative description of the problem including the observed event(s) as well as expected event(s))
12. Identification of the Configuration Item by:
    a. Part name
    b. Part number
    c. Serial number, lot number, or version
    d. Manufacturer's name
    e. Manufacturer's Contractor and Government Entitiy (CAGE) Code

B. The following data shall be provided when it becomes known (with the exceptions noted). This data shall be provided as updates to the initial PRACA report. This data is mandatory for the closure of the report.

13. The end item (if not the configuration item), specific subassemblies, and the nonconforming article shall be identified
    a. Part name
    b. Part number
    c. Serial number, lot number or version
    d. Manufacturer's name
    e. Manufacturer's CAGE code
14. FMEA No. (Failure Mode and Effects Analysis). Note: if the hardware is used by the Space Station and the Space Shuttle Programs, provide both FMEA numbers.
15. FMEA Criticality (per NSTS 22206 or SSP 30234) This data is required within 10 calendar days of opening the problem report. If the hardware is used by both the Space Station and Space Shuttle programs, provide both FMEA criticalities.

PRACA DRD Continued from Page 1

16. PMEA/CIL Impact (yes or no, is the FMEA/CIL retention rationale impacted by the occurrence of this problem?)
17. Out-of-Family Problem (yes or no, based on the definitions of In-Family and Out-of-Family in JSC 28035)
18. Fracture Critical (yes or no, is the material involved fracture critical)
19. ECD (Estimated Completion Date for submitting a final closure of the problem. This data is required within 30 calendar days of opening the problem report)
20. Process Escape (yes or no, per the definition of escape process in JSC 28035)

C. The following data shall be provided to close the report:

21. Final report: A final report documenting the specific information required for closure per JSC 28035 i.e. final closure with corrective action (preferred) or final closure without corrective action (with explanation).
22. Approval signatures
23. Date Approved

D. The contractor shall maintain a status list on all open problems including estimated completion date. This status shall be submitted to the Contracting Officer's Technical Representative and the JSC PRACA Center on a monthly basis during the contract.

Format: The contractor's format is acceptable; however, data shall be easily identifiable to the data labels specified in contents.

Ship To:
NASA Johnson Space Center
Attn: JSC PRACA Center
Mail Code: NT 52
2101 NASA Parkway
Houston, TX 77058

Email: gfepraca@jsc.nasa.gov.

Maintenance: Update as required.

JSC DATA REQUIREMENTS DESCRIPTION (DRD)

(Based on JSC –STD-123. See work page for instructions.)

1. DRD Title	2. Date of current version	3. DRL Line Item No.	RFP/Contract No. (Procurement completes)
NASA Standard Initiator (NSI) Body Material Coupon Tensile Test	1-9-2007	8	NNJ07177092R

4. Use *(Define need for, intended use of, and/or anticipated results of data)*	5. DRD Category: *(check one)*
Data will be used as critieria or acceptance of the NSI.	☒ Technical ☐ Administrative ☐ SR&QA

6. References *(Optional)*	7. Interrelationships *(e.g., with other DRDs) (Optional)*

8. Preparation Information *(Include complete instructions for document preparation)*

Tensile Tests shall be performed on three (3) standard tensile bars (coupons) per ASTM E8. The test coupons shall be from the same AMS 5662 melt (lot) as the NSI body and shall be heat treated simultaneously with the bodies. The data shall be recorded on the Lot Acceptance Data Sheets and included as part of line item 3 on the Data Requirements List. The minimum tensile properties are listed below:

a. Tensile Strength- 185 KSI minimum
b. Yield Strength at 0.2% Offset 150 KSI minimum
c. Elongation in 2 inches- 10% minimum
d. Reduction of area- 12% minimum

Failure to meet the minimum criteria listed above shall be cause for rejection of that lot of parts heat treated with the coupons.

JSC DATA REQUIREMENTS DESCRIPTION (DRD)

(Based on JSC –STD-123. See work page for instructions.)

1. DRD Title	2. Date of current version	3. DRL Line Item No.	RFP/Contract No. (Procurement completes)
NASA Standard Initiator (NSI) Program Status Report	1/9/2007	9	NNJ07177092R

4. Use *(Define need for, intended use of, and/or anticipated results of data)*	5. DRD Category: *(check one)*
To document program status	☒ Technical ☐ Administrative ☐ SR&QA

6. References *(Optional)*	7. Interrelationships *(e.g., with other DRDs) (Optional)*

8. Preparation Information *(Include complete instructions for document preparation)*

A monthly status report covering work accomplished during the month previous to the report, and the work planned for the ensuing month shall be submitted within five (5) working days of the end of the report period. The report shall inlude notes on any technical accomplishments or problems that may necessitate a schedule revision.

The program status reports shall include a log (maintained by lot number) of problems, rejection reports, discrepancy reports, material reviews, etc. and shall contain the identifying serial number and status. This log will be maintained during the production and presented as part of the Lot Acceptance Data Package.

Number of copies: Two

Distribution:

Contracting Officer's Technical Representative: Todd Hinkel/ EP5- 2 hard copies

Contracts Specialist: David Waterson/ BH2- 1 electronic or hard copy.

JSC DATA REQUIREMENTS DESCRIPTION (DRD)

(Based on JSC –STD-123. See work page for instructions.)

1. DRD Title	2. Date of current version	3. DRL Line Item No.	RFP/Contract No. (Procurement completes)
NASA Standard Initiator (NSI) Explosive Mix Caloric Output	1/9/2007	10	NNJ07177092R

4. Use *(Define need for, intended use of, and/or anticipated results of data)*	5. DRD Category: *(check one)*
Data will be used to verify the acceptability of the explosive mix loaded into the NSI.	☒ Technical ☐ Administrative ☐ SR&QA

6. References *(Optional)*	7. Interrelationships *(e.g., with other DRDs) (Optional)*

8. Preparation Information *(Include complete instructions for document preparation)*

The explosive mix shall be tested to verify that there is no significant change in the performance of the explosive mix that is used in different NSI lots.

The caloric output of the explosive mix used to load each lot of NSIs shall be determined by test within one (1) year prior to loading each NSI lot.

Thermal output of the explosive mix shall be between 1340-1450 cal/gm.

The data shall be approved by the NASA-JSC Contracting Officer's Technical Representative prior to loading each NSI lot.

Distribution:

Contracting Officer's Technical Representative: Todd Hinkel/ EP5- One copy.

JSC DATA REQUIREMENTS DESCRIPTION (DRD)
(Based on JSC –STD-123)

1. DRD Title	2. Date of current version	3. DRL Line Item No.	RFP/Contract No. (Procurement completes)
SA-1-14, Monthly Safety and Health Metrics	12/15/04	11	NNJ07177092R

4. Use *(Define need for, intended use of, and/or anticipated results of data)*	5. DRD Category: *(check one)*
To provide NASA management with significant actions, accomplishments, changes and issues associated with the contracted work.	Technical Administrative X SR&QA

6. References *(Optional)*	7. Interrelationships *(e.g., with other DRDs) (Optional)*

8. Preparation Information *(Include complete instructions for document preparation)*

SCOPE:
The scope of the information required is limited to the activities required in the performance of this contract.

FORMAT:
Electronic copies to NT2 and SD26. Hard copy to COTR. Electronic copy to Contracting Officer and Contracts Specialist.

MAINTENANCE:
The report is to cover a calendar month and be received by NASA/JSC, by the 20th of the subsequent month.

DISTRIBUTION:
NT2/ Occupational Safety and Health Branch
SD26/ Occupational Health Officer
Contracting Officer's Technical Representative (COTR)
Contracting Officer
Contracts Specialist

CONTENT:
I. Management Commitment and Employee Involvement

Date of Management Safety Committee Meeting		Type/ Title of Meeting	No. of Managers Attending		No. of Supervisors Attending		No. of Non-Supervisors Attending	
This Month	Year to Date		This Month	Year to Date	This Month	Year to Date	This Month	Year to Date

Include **electronic** copies of minutes or representative information.

No. of Employee Safety Meeting		Type/ Title of Meeting	No. of Employees Attending		No. of Supervisors Attending	
This Month	Year to Date		This Month	Year to Date	This Month	Year to Date

Include **electronic** copies of minutes or representative information.

II. Worksite Analysis: Refer to JPG 1700.1 for definition of terms.

Division	No. of Hazard Analysis				No. of Job Safety Analyses				No. of Routine Inspections			
	Required		Performed		Required		Performed		Required		Performed	
	This Month	Year to Date	This Month	Year to Date	This Month	Year to Date	This Month	Year to Date	This Month	Year to Date	This Month	Year to Date
Totals												

III. Hazard Intervention and Control- hazards below were found during routine and special inspections, close calls, mishap investigations, etc., and require correction.

No. of Hazards Found			No. of Hazards Closed < 30 Days			No. of Hazards Open < 30 Days	No. of Hazards Open > 30 Days		No. of Hazards Closed > 30 Days			No. of JF1240s in place
Prior Month	This Month	Year to Date	Prior Month	This Month	Year to Date		Prior Month	This Month	Prior Month	This Month	Year to Date	Year to Date

Attach copies (electronic OK if sent by e-mail) of JF 1240s (or equivalent) including monthly updates. Mark JF 1240s where abatement has been completed as closed.

IV. Safety and Health Training- List courses specific to loss control initiatives (such as slips/trips/falls, material handling, etc.) Report other training as "Generic Safety Training Not Otherwise Specified" (examples include Hazard Communication, Confined Space Entry, HAZWOPER, system safety, job safety analysis, etc.) Do not include job proficiency course work where safety is an issue (such as radiography, welding, painting, etc.)

Course Title	No. To Be Trained	No. Trained	On Schedule

JSC DATA REQUIREMENTS DESCRIPTION (DRD)

(Based on JSC –STD-123. See work page for instructions.)

1. DRD Title	2. Date of current version	3. DRL Line Item No.	RFP/Contract No. (Procurement completes)
System Safety Program Plan	November 1, 2005	12	NNJ07177092R

4. Use *(Define need for, intended use of, and/or anticipated results of data)*	5. DRD Category: *(check one)*
Establishes system safety tasks and activities to identify, evaluate, and eliminate or control hazards associated with with space flight hardware or software and related operations.	☐ Technical ☐ Administrative ☒ SR&QA

6. References *(Optional)*	7. Interrelationships *(e.g., with other DRDs) (Optional)*
See Block 8	

8. Preparation Information *(Include complete instructions for document preparation)*

Applicable documents on contract for this DRD are as follow:
EA-WI-023, Project Management of GFE Flight Projects
EA-WI-025, GFE Flight Project Software and Firmware Development
JPR 1700.1, JSC Safety and Health Handbook
JPR 1710.13, Design, Inspection, and Certification of Pressure Vessels and Pressurized Systems
JSC 17773, Instruction for Preparation of Hazard Analyses for JSC Ground Operations
JSC 27472, Requirements for Submission of Data Needed For Toxicological Assessment of Chemicals and Biologicals To Be Flown on Manned Spacecraft
JSC 28484, Program Requirements Document for Johnson Space Center Non-Critical Government Furnished Equipment
NPR 8621.1, NASA Procedural Requirements for Mishap Reporting, Investigating, and Recordkeeping
NPR 8715.3, NASA Safety Manual w/Change 2, 03/31/04
NPR 8735.1, Procedures for Exchanging Parts, Materials, and Safety Data Utilizing the Government-Industry Data Exchange Program and NASA Advisories
NSTS 13830, Payload Safety Review and Data Submittal Requirements for Payloads Using the Space Shuttle and International Space Station
NSTS 1700.7, Safety Policy and Requirements for Payloads Using the Space Transportation System
NSTS 1700.7B ISS Addendum, Safety Policy and Requirements for Payloads Using the International Space Station
NSTS 22254, Methodology for Conduct of Space Shuttle Program Hazard Analysis
SSP 30309, Safety Analysis and Risk Assessment Requirements Document
SSP 30599, ISS Safety Review Process

Reference Documents:
JPR 7120.3, Project Management: Systems Engineering & Project Control Processes & Requirements
JSC 8080.5A, JSC Design & Procedural Standards
KHB 1700.7C, Space Shuttle Payload Ground Safety Handbook
MIL-STD-882D, Standard Practice for System Safety
NPR 8705.4, RiskClassification for NASA Payloads

SCOPE: This DRD establishes the requirements for content, format, and maintenance of the System Safety Program Plan (SSPP) which is used for controlling risk and enhancing safety of flight equipment and software, flight-like equipments and software, and critical ground support equipment and software.

CONTENTS: The SSPP shall be developed for the contract to plan, establish, document, and implement:
(1) System Safety design and operational performance requirements (qualitative and quantitative).
(2) System Safety maintenance concepts.
(3) Requirements and tasks for System Safety engineering, analysis, and testing (including hardware, software, firmware, and human elements).
(4) Timely and continuous assessment of the progress toward achieving the System Safety requirements, including identification of areas for improvement.

(5) Integration of System Safety processes and analytical activities with systems engineering, risk management, and other processes, assessments, and analyses including, but not limited to, quality, logistics, reliability, maintainability, availability, probabilistic risk assessment, life-cycle cost, configuration management, and maintenance.

1.0 General. The SSPP shall be documented in narrative format and shall:

1.1 Describe the scope of the System Safety engineering activity for the contract.
1.2 Describe any interrelationships to other contract requirements, tasks and functional elements including appropriate cross references to minimize duplication.
1.3 List the contractor and NASA documents which will be applied either as directives or as guidance in the conduct of the SSPP

2.0 System Safety Engineering Organization. The SSPP shall describe:

2.1 The system safety organization or function within the organization of the contract including charts to show the organizational and functional relationships and lines of communication.
2.2 The responsibility, authority, and accountability of system safety personnel and other contractor organizational elements (including subcontractors) involved in the system safety effort. Identify each organizational unit responsible for executing each task. Identify the authority in regard to resolution of all identified hazards. Include the title, address, and telephone number of the System Safety Program Manager.
2.3 The procedures by which the contractor will integrate and coordinate the system safety efforts. Include methods of dissemination of system safety requirements to action organizations and subcontractors; coordination of subcontractors' system safety programs; integration of hazard analyses; management and engineering reviews; program status reporting; and the identities and charters of any system safety groups.
2.4 The process through which contractor management decisions will be made to include notification and subsequent actions for the following: critical and catastrophic hazards; corrective actions taken; mishaps or malfunctions; waivers to safety requirements; and program waivers and deviations.
2.5 The interfaces between the system safety organization and all other applicable disciplines such as Engineering, Occupational Safety and Health, Reliability, Quality Assurance.

3.0 System Safety Requirements. The SSPP shall:

3.1 Describe or reference the methods that will be used to identify and apply hazard control requirements and criteria for the design and operation of equipment, software, and facilities. List the safety standards and system specifications, which are the sources of safety requirements with which the contractor either is required to comply or intends to adopt as a requirement.
3.2 Describe the risk assessment procedures including the hazard severity categories, hazard probability (or frequency) levels, the precedence to be followed in satisfying safety requirements. State any qualitative or quantitative measures of system safety, which the contractor is required to meet, including a description of the acceptable risk levels. Include system safety definitions, which are in addition to those in JSC documents or are unique to the project covered by the SSPP.
3.3 Describe the management controls that shall be used to ensure compliance or justify waivers and deviations with general design and operational safety criteria and the closed loop procedures to ensure hazard resolution and control.

4.0 Hazard Analyses. The SSPP shall describe the analysis techniques and format that will be used in qualitative and quantitative analysis to identify hazards, their causes and effects, and recommended controls and corrective actions.

5.0 System Safety Data. The SSPP shall:

5.1 Describe the approach for researching, disseminating, and analyzing pertinent system safety data.
5.2 Identify deliverable system safety data and the level of approval required for customer acceptance

5.3 Identify pertinent non-deliverable system safety data and describe the procedures for accessibility by NASA and the retention of the data.

6.0 System Safety Management Reviews and Audits. The SSPP shall describe:

6.1 The management reviews and audit requirements and procedures for ensuring that the objectives and requirements of the system safety program have been adequately demonstrated and implemented.
6.2 The procedures for ensuring feedback of safety-pertinent information for management and engineering review and analysis.
6.3 The review procedures established by the contractor's system safety organization to ensure safe conduct of hazardous tests with particular emphasis on those involving human test subjects.

6.4 Training. Describe techniques and procedures to be used by the contractor to ensure that the objectives and requirements of the system safety program are implemented in training for engineers, test subjects, technicians, operators, and support personnel.

7.0 Authority. NFS 18-52.223-70, 18-52.223-73, 18-52.223-73 (Alt 1); JPI 52.223-92

FORMAT:
The plan shall be delivered in the contractor's format. The plan shall be delivered to DDMS in native format, compatible with Microsoft Word.

MAINTENANCE:
Update as required. This plan shall be maintained in the DDMS.

Contract: NNJO7177092R

Manufacture of the NASA Standard Initiator

Section J.4: Safety and Health Plan

Contract: NNJO7177092R

Manufacture of the NASA Standard Initiator

Section J.5: System Safety Program Plan